

are: No. 2, deposited at the Royal Mint; No. 3, in charge of the Royal Society; No. 4, immured in the Cill of the Recess on the East Side of the Lower Waiting Hall in the New Palace at Westminster; and No. 5, deposited at the Royal Observatory, Greenwich.

The whole number of bars accurately compared is 78. Of these, four tubular scales were not the property of the British Government; seven are end-measures; all the remainder are line-measures. They have been distributed liberally to foreign Governments and to British Offices; several, however, remain at the Royal Observatory, Greenwich, still disposable.

The whole of the documents relating to the preparation and comparison of the Standards are preserved at the Royal Observatory.

XV. "On the existence of the Decidua around the Ovum within the Fallopian Tube, in four Cases of Fallopian-Tube Conception, and on the absence of any trace of Decidua in the Cavity of the Uterus in the same Cases." By ROBERT LEE, M.D., F.R.S., Fellow of the Royal College of Physicians, London. Received May 28, 1857.

(Abstract.)

The author observes that more than two hundred years have elapsed since Riolan published a case of Fallopian-tube gestation, and that numerous cases have since been recorded in which the human ovum, after impregnation, instead of passing into the cavity of the uterus, has been arrested in the canal of the tube, and sudden death taken place from rupture of its coats and hemorrhage into the sac of the peritoneum. In none of these cases has a minute anatomical examination been made of the ova thus found in the Fallopian tubes, with the view of determining whether they have the same structure as ova found within the cavity of the uterus, or expelled from it prematurely in a healthy condition.

After referring to cases of Fallopian-tube conception published by Drs. Baillie, Denman, and J. Clarke, Mr. Langstaff, M. Breschet, and Dr. Elliotson, the author gives the details of four cases, in all of which there was no decidua found within the uterus, but the decidua,

consisting of two layers corresponding with those usually termed decidua vera and reflexa, was found in the tube, adhering to its inner surface and surrounding the placenta and villi of the chorion. The following is the description given by the author of the appearances observed in the last of these cases:—"The uterus was enlarged, and the whole lining membrane coated with a thick irregular layer of a substance resembling the fibrine of the blood, of a red colour, in the upper part. The right Fallopian tube about the middle was as large as a walnut, or larger where its coats had burst, and a coagulum of blood was hanging through the irregular aperture. The tube was pervious from the corpus fimbriatum to the dilated part. On cutting open this expanded portion, a small embryo enclosed in the amnion was observed, and the vesicula umbilicalis, remarkably large, with its peduncle, came into view. All the cells of the placenta and villi of the chorion were seen distended with coagulated blood and surrounded with a deciduous membrane, a great part of which has been separated from the inner surface of the tube."

XVI. "Experimental Researches on the Conductive Powers of various Substances, with the application of the Results to the Problem of Terrestrial Temperature." By WILLIAM HOPKINS, Esq., M.A., F.R.S., of St. Peter's College, Cambridge. Received June 10, 1857.

(Abstract.)

1. The author remarks, that in giving an account of these experimental researches, it is first necessary to define strictly the manner in which the *conductivity* or *conducting power* of a substance with reference to heat, is accurately *measured*. For this purpose, conceive the conducting substance to be bounded by two parallel plane surfaces of indefinite extent, the distance between them being h . Suppose one of these bounding surfaces (which, for convenience, may be called the *lower* one) to be kept at a uniform and constant temperature t_1 ; let the temperature of the *upper* surface be also constant and uniform, and equal to t_2 ; and let τ denote the temperature of the free space into which the heat radiates from the *upper*